WHAT IS CLAIMED IS:

1.   A plumbing fixture installation and valve control system comprising:

a user interface module (UIM) for installation adjacent a plumbing fixture, the UIM module having a UIM high frequency transmitter and a UIM low frequency receiver for communication in an active mode and a learning mode;

a valve interface module (VIM) having a valve interface for operative connection to a valve, the VIM for controlling fluid flow through the valve, the VIM including a VIM high frequency receiver and a VIM low frequency transmitter for communication with the UIM;

wherein the UIM high frequency transmitter, the UIM low frequency receiver, the VIM high frequency receiver and the VIM low frequency transmitter enable linking digital identities between the UIM and the VIM in the learning mode and for providing operative control of the valve in the active mode.

2.   A plumbing fixture and valve control system as in claim 1 wherein the VIM includes a VIM processor for interpreting a high frequency master signal from the UIM and for responding to the high frequency master signal by activating the VIM low frequency transmitter to transmit the VIM digital identity in the learning mode.

3.   A plumbing fixture and valve control system as in claim 1 wherein the VIM includes a VIM processor for interpreting a high frequency valve control signal from the UIM and for responding to the high frequency valve control signal to control fluid flow through the valve in the active mode.

4.   A plumbing fixture and valve control system as in claim 1 wherein the UIM includes a UIM processor operatively connected to the UIM high frequency transmitter for instructing the UIM high frequency transmitter to transmit a high frequency master signal in the learning mode and a high frequency valve control signal in the active mode.

5.   A plumbing fixture and valve control system as in claim 4 wherein the UIM includes an activation system operatively connected to the UIM processor, the activation system responsive to a user input to cause the UIM high frequency transmitter to transmit the high frequency valve control signal in the active mode.

6.   A plumbing fixture and valve control system as in claim 5 wherein the activation system is an active activation system.

7.   A plumbing fixture and valve control system as in claim 5 wherein the activation system is a passive activation system.

8.   A plumbing fixture and valve control system as in claim 6 wherein the active activation system is a touchless activation system.

9.   A plumbing fixture and valve control system as in claim 6 wherein the active activation system is a touch activation system.

10.   A plumbing fixture and valve control system as in claim 1 wherein the VIM initiates a flush cycle of the valve.

11.   A plumbing fixture and valve control system as in claim 4 wherein the UIM includes an audio or visual output system operatively connected to the UIM processor for providing audio or visual output to a user during the learning mode to signal linking digital identities.

12.   A plumbing fixture and valve control system as in claim 4 wherein the UIM includes an audio or visual output system operatively connected to the UIM processor for providing audio or visual output to a user during the active mode.

13.   A plumbing fixture and valve control system as in claim 1 further comprising a learning mode activation device, the learning mode activation device for operative communication with a UIM for activating the UIM into the learning mode.

14.   A plumbing fixture and valve control system as in claim 1 wherein the UIM high frequency transmitter transmits a high frequency signal encoded with a preamble, digital ID, command and postamble.

15.   A plumbing fixture and valve control system as in claim 1 further comprising an electronic control for operative connection between at least one VIM and at least one corresponding valve, the electronic controller for receiving flush signals from each VIM and for allowing or denying each flush signal to be sent to each corresponding valve on the basis of a predetermined algorithm.

16.   A plumbing fixture installation and valve control system comprising:

a user interface module (UIM) for installation adjacent a plumbing fixture, the UIM module having:

> a UIM high frequency transmitter and a UIM low frequency receiver for communication in an active mode and a learning mode;

> a UIM processor operatively connected to the UIM high frequency transmitter for instructing the UIM high frequency transmitter to transmit a high frequency master signal in the learning mode and a high frequency valve control signal in the active mode;

> an activation system operatively connected to the UIM processor, the activation system responsive to a user input to cause the UIM high frequency transmitter to transmit the high frequency valve control signal in the active mode;

a valve interface module (VIM) for operative connection to a valve for controlling fluid flow through the valve and, in the learning mode, for communication with the UIM to link digital identities between the UIM and VIM and, in the active mode, to provide operative control of the valve, the VIM having:

> a valve interface for operative connection to the valve;

> a VIM high frequency receiver and a VIM low frequency transmitter for communication with the UIM;

> a VIM processor for, in the learning mode, interpreting a high frequency master signal from the UIM and for responding to the high frequency master signal by activating the VIM low frequency transmitter to transmit a VIM digital identity and, in the active mode, for interpreting a high frequency valve control signal from the UIM and responding to the high frequency valve control signal to control fluid flow through the valve.

17. A plumbing fixture and valve control system as in claim 16 wherein the UIM includes an audio or visual output system operatively connected to the UIM processor for providing audio or visual output to a user during the learning mode to signal linking digital identities.

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18. A plumbing fixture and valve control system as in claim 16 wherein the UIM includes an audio or visual output system operatively connected to the UIM processor for providing audio or visual output to a user during the active mode to signal operation.

19. A method for linking a user interface module (UIM) and a valve interface module (VIM) in a plumbing installation and for providing operative control of a plumbing fixture, the UIM having a UIM high frequency transmitter and a UIM low frequency receiver and the VIM having a VIM high frequency receiver and a VIM low frequency transmitter, the method comprising the steps of:

in a learning mode:

transmitting a high frequency master signal from the UIM to the VIM;

activating the VIM in response to the high frequency master signal;

transmitting a unique digital identity at a low frequency from the VIM to the UIM and recording the unique digital identity in the UIM; and,

in an active mode:

transmitting a high frequency valve control signal encoded with the unique digital identity from the UIM to the VIM; and,

activating a valve control process in the VIM in response to the valve control signal.

20. A method as in claim 19 wherein at least two VIMs are linked to a single UIM.